

**Notice of Allowability**

Application No.

10/692,427

Applicant(s)

HUNG, FU-LING

Examiner

Art Unit

Wilson Lee

2821

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 8/5/05.
2. ☒ The allowed claim(s) is/are 22,23 and 25-33.
3. ☒ The drawings filed on 4/22/05 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_



Wilson Lee  
Primary Examiner  
Art Unit: 2821

**Allowable subject matter**

Claims 22, 23, 25-33 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art neither discloses nor suggests the following limitations, in combination with the remaining elements disclosed in claims 22, 23, 25-33:

- the main driver further comprises a feedback control circuit connected to the PFC circuit, a power drive and a half-bridge inverter such as required by claim 22;
- the starting circuit comprises a sub-starting circuit having a SIDAC connected in series to a diode and an inductor for starting the HID lamp quickly and reliably such as required by claim 23;
- the starting circuit comprises a circuit having a capacitor for fine tuning an output of the HID lamp, a brightness of the HID lamp, and a low frequency content for controlling an induced sound resonance such as required by claim 25;
- the starting circuit comprises a circuit having a thyristor between a capacitor and a resistance for preventing the HID drive from restating when the HID lamp is on such as required by claim 26;
- the thyristor is connected to the timing circuit to control a re-starting of the HID lamp by the timing circuit such as required by claim 27;
- the main driver comprises a first integrated circuit (IC) for PFC and for governing preceding filtering and rectification and a second IC for power

driving and the timing circuit comprises a third IC, and when input voltages of the first, second, and third ICs are below predetermined values, the second and the third ICs are locked out and the first IC is maintained to be powered and ready for a re-starting such as required by claim 28;

- the at least capacitance is disposed between a set of switches of the main driver and an output transformer such as required by claim 29;
- the starting circuit comprises a circuit having a capacitor for fine tuning an output of the HID lamp, a brightness of the HID lamp, and a low-frequency content for controlling an induced sound resonance such as required by claim 30;
- the starting circuit comprises a circuit having a thyristor between a capacitor and a resistance for preventing the HID drive from restarting when the HID lamp is on such as required by claim 31;
- the thyristor is connected to the timing circuit to control a re-starting of the HID lamp by the timing circuit such as required by claim 32;
- the main driver comprises a first integrated circuit for PFC and for governing preceding filtering and rectification and a second IC for power driving and the timing circuit comprises a third IC, and when input voltages of the first, second and third ICs, are below predetermined values, the second and the third IC are locked out and the first IC is

maintained to be powered and ready for a re-starting such as required by claim 33.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nostwick (6,724,152) discloses a lighting control comprising a in-rush current limiter, a driver, a inverter and two fluorescent lamps but fails to disclose any HID lamp.

Noguchi et al. (6,717,375) discloses an inverter, a driver but fails to disclose any input processor for suppressing in-rush current.

Trestman (6,680,585) discloses an apparatus comprising an input processor for limiting in-rush current, an inverter, a feedback control for adjusting the desired modulation range but fails to disclose any protection circuit for controlling timing after failure.

Takahashi et al. (6,597,127) discloses an in-rush current limiter including inverter, a driver, a rectifier but fails to disclose the in-rush current limiter being separate from driver, starting circuit, protection circuit, timing circuit.

Duong et al. (6,522,089) discloses an electronic ballast comprising a feedback circuit for adjusting duty cycle but fails to disclose a protection circuit for controlling timing after failure.

### **Correspondence**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Wilson Lee whose telephone number is (571) 272-1824.

Papers related to Technology Center 2800 applications may be submitted to Technology Center 2800 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The official fax number is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Wilson Lee  
Primary Examiner  
U.S. Patent & Trademark Office

8/16/05